

## ANALYTICAL REPORT

Job Number: 680-78867-1

Job Description: Pavillion Groundwater

For:  
US EPA National Risk Mngmnt Research  
919 Kerr Research Drive  
Ada, OK 74820  
Attention: Rick Wilkin



Approved for release.  
Lisa Harvey  
Project Manager II  
7/12/2012 11:49 AM

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07/12/2012

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## **CASE NARRATIVE**

**Client: US EPA National Risk Mngmnt Research**

**Project: Pavillion Groundwater**

**Report Number: 680-78867-1**

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

### **RECEIPT**

The samples were received on 04/25/2012; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 4.6 C.

### **METHYLENE BLUE ACTIVE SUBSTANCES**

Samples FieldBlk 4 (680-78867-1), EquipBlk 4 (680-78867-2), EPAMW01-0412 (680-78867-3), EPAMW01d-0412 (680-78867-4), EPAMW01-0412-4 (680-78867-5) and EPAMW01-0412-7 (680-78867-6) were analyzed for Methylene Blue Active Substances in accordance with EPA Method 425.1. The samples were analyzed on 04/25/2012.

No difficulties were encountered during the MBAS surfactants analyses.

All quality control parameters were within the acceptance limits.

## SAMPLE SUMMARY

Client: US EPA National Risk Mngmnt Research

Job Number: 680-78867-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
680-78867-1	FieldBlk 4	Ground Water	04/24/2012 1000	04/25/2012 0924
680-78867-2	EquipBlk 4	Ground Water	04/24/2012 1400	04/25/2012 0924
680-78867-3	EPAMW01-0412	Ground Water	04/24/2012 1409	04/25/2012 0924
680-78867-4	EPAMW01d-0412	Ground Water	04/24/2012 1409	04/25/2012 0924
680-78867-5	EPAMW01-0412-4	Ground Water	04/24/2012 1349	04/25/2012 0924
680-78867-6	EPAMW01-0412-7	Ground Water	04/24/2012 1628	04/25/2012 0924

## METHOD SUMMARY

Client: US EPA National Risk Mngmnt Research

Job Number: 680-78867-1

Description	Lab Location	Method	Preparation Method
<b>Matrix: Ground Water</b>			
Methylene Blue Active Substances (MBAS)	TAL SAV	EPA 425.1	

### Lab References:

TAL SAV = TestAmerica Savannah

### Method References:

EPA = US Environmental Protection Agency

## METHOD / ANALYST SUMMARY

Client: US EPA National Risk Mngmnt Research

Job Number: 680-78867-1

Method	Analyst	Analyst ID
EPA 425.1	Brantley, Willie	WB

## DATA REPORTING QUALIFIERS

Client: US EPA National Risk Mngmnt Research

Job Number: 680-78867-1

Lab Section	Qualifier	Description
General Chemistry	U	Indicates the analyte was analyzed for but not detected.

## Quality Control Results

Client: US EPA National Risk Mngmnt Research

Job Number: 680-78867-1

### QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
<b>General Chemistry</b>					
<b>Analysis Batch:680-235336</b>					
LCS 680-235336/4	Lab Control Sample	T	Water	425.1	
MB 680-235336/3	Method Blank	T	Water	425.1	
680-78867-1	FieldBlk 4	T	Water	425.1	
680-78867-2	EquipBlk 4	T	Water	425.1	
680-78867-3	EPAMW01-0412	T	Water	425.1	
680-78867-4	EPAMW01d-0412	T	Water	425.1	
680-78867-5	EPAMW01-0412-4	T	Water	425.1	
680-78867-6	EPAMW01-0412-7	T	Water	425.1	

#### Report Basis

T = Total



# GENERAL CHEMISTRY

COVER PAGE  
GENERAL CHEMISTRY

Lab Name: Test America Savannah Job Number: 680-78867-1

SDG No.:

Project: Pavilion Groundwater

Client Sample ID	Lab Sample ID
Field Blank 4	680-78867-1
Equipment Blank 4	680-78867-2
EPAMW01-0412	680-78867-3
EPAMW01d-0412	680-78867-4
EPAMW01-0412-4	680-78867-5
EPAMW01-0412-7	680-78867-6

Comments:

1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: FieldBk 4

Lab Sample ID: 680-78867-1

Lab Name: TestAmerica Savannah

Job No.: 680-78867-1

SDG ID:

Matrix: Ground Water

Date Sampled: 04/24/2012 10:00

Reporting Basis: WET

Date Received: 04/25/2012 09:24

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Methylene Blue Active Substances	0.20	0.20	0.12	mg/l LAS MW 340	U		1	425.1

1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: EquipBik 4

Lab Sample ID: 680-78867-2

Lab Name: TestAmerica Savannah

Job No.: 680-78867-1

SDG ID:

Matrix: Ground Water

Date Sampled: 04/24/2012 14:00

Reporting Basis: WET

Date Received: 04/25/2012 09:24

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Methylene Blue Active Substances	0.20	0.20	0.12	mg/l LAS MW 340	U		1	425.1

1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: EPAMW01-0412

Lab Sample ID: 680-78867-3

Lab Name: Test America Savannah

Job No.: 680-78867-1

SDG ID: \_\_\_\_\_

Matrix: Ground Water

Date Sampled: 04/24/2012 14:09

Reporting Basis: WET

Date Received: 04/25/2012 09:24

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Methylene Blue Active Substances	0.20	0.20	0.12	mg/l LAS MW 340	U		1	425.1

1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: EPAMW01d-0412

Lab Sample ID: 680-78867-4

Lab Name: Test America Savannah

Job No.: 680-78867-1

SDG ID: \_\_\_\_\_

Matrix: Ground Water

Date Sampled: 04/24/2012 14:09

Reporting Basis: WET

Date Received: 04/25/2012 09:24

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Methylene Blue Active Substances	0.20	0.20	0.12	mg/l LAS MW 340	U		1	425.1

1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: EPAMW01-0412-4

Lab Sample ID: 680-78867-5

Lab Name: Test America Savannah

Job No.: 680-78867-1

SDG ID: \_\_\_\_\_

Matrix: Ground Water

Date Sampled: 04/24/2012 13:49

Reporting Basis: WET

Date Received: 04/25/2012 09:24

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Methylene Blue Active Substances	0.20	0.20	0.12	mg/l LAS MW 340	U		1	425.1

1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: EPAMW01-0412-7

Lab Sample ID: 680-78867-6

Lab Name: Test America Savannah

Job No.: 680-78867-1

SDG ID: \_\_\_\_\_

Matrix: Ground Water

Date Sampled: 04/24/2012 16:28

Reporting Basis: WET

Date Received: 04/25/2012 09:24

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Methylene Blue Active Substances	0.20	0.20	0.12	mg/l LAS MW 340	U		1	425.1



3-I N  
METHOD BLANK  
GENERAL CHEMI STRY

Lab Name: Test Ameri ca Savannah

Job No. : 680-78867-1

SDG No. :

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID:	235336	Date:	04/25/2012 11:06				
425.1	MB 680-235336/3	Methylene Blue Active Substances	0.20	U	mg/l LAS MW 340	0.20	1

7A-I N  
LAB CONTROL SAMPLE  
GENERAL CHEMI STRY

Lab Name: Test Ameri ca Savannah Job No.: 680-78867-1

SDG No.: \_\_\_\_\_

Mat r i x: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 235336 Date: 04/25/2012 11:06											
						LCS Source: MBAS SPI KE_00534					
425.1	LCS 680-235336/4	Methyl ene Bl ue Act i ve Subst ances	0.496		mg/l LAS MW 340	0.500	99	70-130			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VII A-I N

9-I N  
DETECTI ON LI MI TS  
GENERAL CHEMI STRY

Lab Name: Test Ameri ca Savannah Job Number: 680-78867-1  
SDG Number: \_\_\_\_\_  
Mat ri x: Wat er I nst rument I D: NOEQUI P  
Met hod: 425. 1 MDL Dat e: 04/ 28/ 2010 09: 47

Anal yt e	Wavel engt h/ Mass	RL (mg/ l LAS	MDL (mg/ l LAS MW
Met hyl ene Bl ue Act i ve Subst ances		0. 2	0. 12

9-IN  
CALIBRATION BLANK DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: Test America Savannah Job Number: 680-78867-1  
SDG Number: \_\_\_\_\_  
Matrix: Water Instrument ID: NOEQUIP  
Method: 425.1 XMDL Date: 06/02/2009 00:00

Anal yte	Wavele ngth/ Mass	XRL (mg/ l LAS	XMDL (mg/ l LAS MW
Met hyl ene Bl ue Act i ve Subst ances		0. 2	0. 1

13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: Test America Savannah Job No.: 680-78867-1

SDG No.: \_\_\_\_\_

Instrument ID: NOEQUIP Method: 425.1

Start Date: 04/25/2012 11:06 End Date: 04/25/2012 11:06

Lab Sample ID	D / F	Type	Time	Anal ytes															
				M B A S															
CCV 680-235336/ 1			11:06																
ZZZZZZ			11:06																
MB 680-235336/ 3	1	T	11:06	X															
LCS 680-235336/ 4	1	T	11:06	X															
ZZZZZZ			11:06																
ZZZZZZ			11:06																
ZZZZZZ			11:06																
ZZZZZZ			11:06																
ZZZZZZ			11:06																
ZZZZZZ			11:06																
680-78867-1	1	T	11:06	X															
CCV 680-235336/ 12			11:06																
CCB 680-235336/ 13			11:06																
680-78867-2	1	T	11:06	X															
680-78867-3	1	T	11:06	X															
680-78867-4	1	T	11:06	X															
680-78867-5	1	T	11:06	X															
680-78867-6	1	T	11:06	X															
CCV 680-235336/ 19			11:06																
CCB 680-235336/ 20			11:06																

Prep Types

T = Total / NA

## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Test America SavannahJob No.: 680-78867-1

SDG No.: \_\_\_\_\_

Batch Number: 235336Batch Start Date: 04/25/12 11:06Batch Analyst: Brantley, WillieBatch Method: 425.1Batch End Date: 04/25/12 12:57

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial Amount	Final Amount	MBAS SPIKE 00534			
MB 680-235336/3		425.1		100 mL	100 mL				
LCS 680-235336/4		425.1		100 mL	100 mL	1 mL			
680-78867-A-1	FieldBIK 4	425.1	T	100 mL	100 mL				
680-78867-A-2	EquipBIK 4	425.1	T	100 mL	100 mL				
680-78867-A-3	EPAMW01-0412	425.1	T	100 mL	100 mL				
680-78867-A-4	EPAMW01d-0412	425.1	T	100 mL	100 mL				
680-78867-A-5	EPAMW01-0412-4	425.1	T	100 mL	100 mL				
680-78867-A-6	EPAMW01-0412-7	425.1	T	100 mL	100 mL				

## Batch Notes

Batch Comment	5540
Chloroform Lot #	2549338
Date Analyzed	04.25.12
Sulfuric Acid Lot Number	26220924
Indicator Reagent ID Number	2621012
NaOH Lot #	2486440
Phenolphthal ein Lot #	0166-16
Wash Solution Lot #	2621014/ 2628252

Basis	Basis Description
T	Total / NA

# **Shi ppi ng and Recei vi ng Documents**





## Login Sample Receipt Checklist

Client: US EPA National Risk Mngmnt Research

Job Number: 680-78867-1

Login Number: 78867

List Source: TestAmerica Savannah

List Number: 1

Creator: Barnett, Eddie T

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	